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P R E F A C E.

A^S the arrangement of the different subjects in the following pages continues as nearly as possible the same with that in several of the former Volumes of these Transactions, it is needless to say any thing further on that head; we therefore proceed to enumerate some of the principal subjects that form the present Volume; and first, the matters for which Premiums have been first offered in the course of the present Session. Among these, in the Class of Chemistry, will be found one for the discovery of a Red Pigment for Oil and Water Colours, equal in brilliancy, and superior in point of durability, to any hitherto in use: of how much advantage the attainment of such a Colour will prove to all artists in painting, is too obvious to

need any comments. Under the Class of Manufactures will be found Premiums, now first offered, for taking Porpoises, and extracting the Oil from them. It being well known that great devastation is continually made at the mouths of the principal rivers, as Thames, Severn, &c. by these voracious animals, on the Salmon and other fish, at the season when they leave the salt water and come into the fresh to spawn; and it having also been said, that in the northern parts of Europe considerable quantities of Oil are extracted from them; it was judged a proper object of the Society's attention to endeavour, by proper rewards, to stimulate our fishermen on the coasts of Great Britain to institute a Fishery for Porpoises, and thereby not only secure the fish that would otherwise be devoured by them, but also obtain an additional quantity of Oil, of which such great abundance is consumed in lamps, and a large proportion fetched from the southernmost extremity of America.

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Under the Class of Mechanicks, the reader will find a Premium, now first offered, for a subject of great importance, no less than the discovery of a Quarry of Stone, fit for the purpose of Mill Stones, for grinding Wheat, and equal, in all respects, for that purpose, to that species of Stone universally known by the name of **THE FRENCH BURR**. Whoever adverts to the circumstance of all the fine flour in this Country being ground by Stones hitherto supposed to be only procurable from France, and that no others are yet known, by which such fine flour can be prepared, will readily allow the propriety of the Society's offering a handsome Reward for the discovery, in our own Country, of a material that will effectually answer so desirable a purpose.

Although the Claims for the Premiums offered by the Society have not been, during this Session, so numerous as in some former years, yet it is presumed there will be found very considerable information and entertainment in the following pages. The Papers

of Mr. Davis and Mr. Phillips will throw great light on the manner of cultivating the different kinds of trees they severally describe; and the discriminating the different kinds of Oifiers, as laid down in the account given by the latter of those Gentlemen, cannot fail being highly useful to all persons who attend to the culture of Oifiers, of which vast quantities are continually in use, and the manufacturing of which into baskets, &c. furnishes employment to great numbers of industrious poor. The Papers also of Mr. Harper, Mr. Webster, and Mr. Exter, will furnish much useful information on the subjects treated by them.

In the Preface to the Fourteenth Volume of these Transactions mention was made of the advantage likely to accrue to the Kingdom at large from the spirit of improvement that appeared to be taking place in the more distant parts of the Country; and here it will also be seen, by the Papers of Mr. Peart, that the improving and cultivating Waste Land, even among some of the

the most bleak mountains in the northern parts of England, is largely extending.

Mention has formerly been made of the advantages that, in all probability, will in future arise from the Culture of Rhubarb in this Country; and the Paper of Mr. Jones will prove that the growth of that useful plant is increasing.

At a time when Botanical Studies are so much and so properly attended to, as they are at present in this Country, the discovery of some mode, whereby the Seeds of Plants may be transferred from one distant part of the globe to another, in a proper state for vegetating, becomes an object of no small consideration; and the Society have, for many years past, continued to offer Premiums, in order to obtain some method of accomplishing that end; but it will be found under the head of Chemistry (under which Class all the Premiums for this purpose have been offered), that, by a Paper received from John Sneyd, Esq. of Belmont, in Staffordshire, some trials have been made,

which promise to effect the business; and it may be here necessary to observe that, should any person put in execution the hints given by Mr. Sneyd, it will be highly satisfactory to the Society to be informed of the result; and any information will also be thankfully received on the subject of the Paper from Mr. Brown, respecting the formation of Manure, inserted under the same Class.

It has already been observed, both in the Fourteenth and Fifteenth Volumes of these Transactions, that Opium, of an excellent quality, has been collected from Poppies grown in England, and considerable Premiums have been offered for obtaining quantities of that useful drug: in order to furnish every possible information towards obtaining that desirable end, there is inserted, in this Volume, an account of the method practised in India, with a cut of a simple Instrument, used by the natives, for making incisions in the Poppy heads; this, it is believed, will forward, in a great degree,

gree, the intention of the Society on this subject.

Various attempts have been frequently made to discover, if possible, the manner of Painting practised by the best artists of the Venetian School, so as to produce such a brilliancy, and at the same time such an harmony of colouring, as form the genuine characteristic of those artists. During this Session some Papers on this subject have been submitted to the Society's consideration; and that part of them which more immediately relates to the mode of Colouring, is inserted under the head of Polite Arts. How far it agrees with those methods that have, within these few months, been told as secrets to some of our eminent artists, must be left to them to determine: certain it is, that Mr. Sheldrake, the Gentleman from whom these Papers were received, is uninformed of those secrets, and has discovered this method of painting by dint of application and study; and some artists of considerable eminence, who were consulted on the occasion,

fion, agreed that Mr. Sheldrake's method of painting was not only different from that commonly practised, but an improvement of it. The other part of these Papers, which relates more particularly to the preparing of Oils and Varnishes, and seems rather to relate to chemical processes than those branches that usually come under the denomination of Polite Arts, will make a part of some future Volume of these Transactions.

In the following pages, under the Class of Mechanics, will be found a very ingenious improvement of that kind of machine called a Mangle, which has of late years become of very general use in almost every family; and, under the idea of Patents having been granted for making them, they have been sold at very exorbitant prices.

Here too will be seen an Escapement for Watches, contrived and executed by a very ingenious artist in a distant part of the kingdom; and however some parts of this Escapement may appear to bear a resemblance
to

to what has been already in use for the same purpose, which in such cases may perhaps be unavoidable, yet, in the opinion of some of the most competent judges, the whole machine afforded such marks of original genius in the person who produced it, as deservedly entitled him to the Reward adjudged to him.

Every attempt to expedite and bring to perfection the Art of Ship-Building must universally be allowed a proper subject of the attention of this Society; and a Model of a very ingenious contrivance for drawing Bolts in and out of Ships, with more expedition and firmness than by the method hitherto practised, having been produced this Session, the ingenious inventor has been honourably rewarded; and a complete Print, and Description of it, is now given to the Public.

Besides the representations of the several Models in this Class, now published, it may not be improper to say, that the Models themselves are reserved in the Society's Repositories,

positories, for the inspection and use of the Public.

Under the Class of Colonies and Trade, is inserted a Letter from the ingenious and indefatigable Superintendant of the Botanic Garden in the Island of St. Vincent; in which Letter an account is given of the introduction and thriving state of several useful Plants in that Garden, and, among others, of the success that has attended the importation of the Bread-Fruit into that and other Islands in the West Indies. Highly meritorious as it most assuredly was in Government to interest itself so much in the obtaining and transplanting that Fruit, yet it must be acknowledged that this Society, fully convinced of its utility, from what had been said of it by all the voyagers to the South Sea, from the time of Dampier to Captain Cook, began so early as the year 1777 to offer Premiums, both honorary and pecuniary, to the person who should first convey any of the Plants of the Bread-Fruit to England, in order to their being sent to
the

West Indies; and although, when Government had interested itself in the obtaining that Tree, the Society judged it not necessary further to continue their pecuniary Reward, yet it is still fresh in the memory of many Members, with how much pleasure Capt. Bligh was received when he attended the anniversary distribution of Rewards in the year 1794, and received the highest mark of honour in the power of the Society to bestow, as a just tribute to his perseverance and merit.

By the entertaining and instructive Letter received from Mr. Sievers, one of the Corresponding Members, who formerly resided in England, it is evident that the benefits arising to mankind from this Society have not been wholly confined to this Country; for we have now learnt that the late Empress of Russia, whose greatness of mind was apparent in all her conduct, having seen one of the Books of Premiums, annually published, established a Society, similar to this, in her dominions, which still exists, and
has

has been attended with great advantages. The Culture of Silkworms, which has often been considered as practicable, to advantage, in this Country, is also shewn, in Mr. Sievers's letter, to be carried on in climates more inhospitable than this; and the publication of what he says on that subject may probably tend to the making such experiments as may prove the practicability of establishing that business, or shew the futility of attempting it.

A circumstance has occurred during the last Session, which it is necessary the Public in general, and more particularly all those who may intend to become Candidates for the Society's Rewards, should attend to; it is this:—

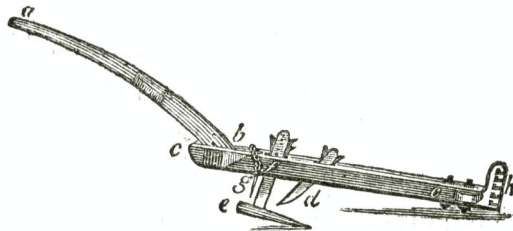
In the year 1797 a Bounty of Thirty Guineas was given to Mr. Adam Scott (see Vol. XV. page 226), for his invention of an Instrument, called by him a Mole-Plough, on condition of the Plough being left with the Society for the use of the Public; and

it was stated, that these Ploughs could be sold in London at the price of Two Guineas and a half each. Many months had not elapsed, before an Instrument, very similar in its construction to that of Mr. Scott, was offered for sale at the enormous price of Ten Guineas, under the idea of a Patent having been granted for the sole making and vending such Instrument; and it appeared, by a letter received from Mr. Scott, that he had himself acted as an agent in the sale thereof. This induced the Society to resolve, that Mr. Scott cannot, henceforward, be admitted a claimant for any Reward from them.

A Wood Cut of Mr. Scott's Plough, together with the Society's Advertisement on the occasion, is here inserted.

Mr.

MR. ADAM SCOTT'S MOLE-PLOUGH.



a, the handle, one only being used, as two were found unnecessarily to increase the price of the Plough; this handle, which is in length six feet, is mortised into the beam at *b*:—*c*, the beam, six feet eleven inches long:—*d*, the coulter, fifteen inches long, and two and a half wide, wedged as usual:—*e*, the cone or mole, made of cast-iron, twenty inches long, and two and a half diameter at its base, having an upright piece of bar-iron, two feet long, and three inches and a half broad, with a sharp edge, which, passing through the beam at *f*, is held fast by wedges; and the pin *g*, being put through one of the holes in the bar, serves to regulate the depth of the cavity below the surface of the land, the lower side of the beam being in contact with the ground during the working.

THE Society for the Encouragement of Arts, Manufactures, and Commerce, in the year 1797, previous to the date of any Patent for such an Instrument, gave a Bounty of Thirty Guineas to Mr. ADAM SCOTT, of Guildford, in Surrey, for his invention of a Machine for the purpose of under-draining Land, called by him a MOLE-PLOUGH, which Plough is reserved in the Repository of the Society for the inspection and use of the Public; and a Print and Description thereof has been published in the Fifteenth Volume of the Society's Transactions; and, in the opinion of experienced workmen, such Ploughs can be made and sold in London at the price of Two Guineas and a Half each.

The Society, therefore, in order to prevent any imposition on the Public, by being compelled to purchase such Ploughs at the enormous price of Ten Guineas, under the idea of a Patent having been obtained for the sole making and vending them, think proper hereby to state, that any person is at liberty to inspect Mr. SCOTT'S Plough, and take a Drawing or Model of it, for the purpose of making them, by applying to the proper Officer, at the Society's House, any day, Sundays and Wednesdays excepted, between the hours of ten and two.

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There remains now only again to repeat, that the ingenious, of both sexes, are invited to submit their works and their inventions to the inspection of the Society, from whom they will receive every attention and encouragement their merit may entitle them to, and thereby secure to themselves not only honour and profit, in the present instance, but have also the pleasing consciousness that their names will stand recorded to posterity, among those who have contributed to the increase of the Arts, the Manufactures, and the Commerce of their Country; from whence alone the interest, the riches, and the substantial and permanent glory of the Kingdom, can arise.

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